

3. REGIONAL GEOLOGY

3.1 Stratigraphy

The regional stratigraphy of EL20/80 Launceston is summarised in Table 2.

3.2 Formation of the Basin

The Launceston Basin, contains the largest continuous area of unconsolidated Tertiary sediments in Tasmania. The sediments are primarily fluvial in origin and have been unconformably deposited on Permian and Triassic sediments and Jurassic dolerites.

The main structural elements of the Launceston Basin were formed by pre-Tertiary and Tertiary faulting producing two grabens, the Cressey and Tamar Troughs. These are separated by a discontinuous central horst which is expressed in the Hummocky Hills and hills to the north of Perth extending north westerly to Carrick.

The Cressey Trough extends from Campbell Town through Cressey to Westbury, and the Tamar Trough extends from the present mouth of the Tamar River, through Launceston to Campbell Town.

Although the initial formation of the basin was structurally controlled, erosional processes and isostatic subsidence in response to loading of the land surface by Tertiary sediments may have played a secondary role.

3.3 Sedimentation

Deposition of sediments commenced in the Palaeocene - Lower Eocene and continued until the Upper Oligocene (Mathews, 1974). Sediments are predominantly non-marine clays, silts, sands and gravels with minor marine or brackish environment influences.

Environments of deposition were in a state of constant flux during the Tertiary, alternating from fluvial to lacustrine, with swamps and subaerial facies. This is reflected by the rapid lateral facies changes interpreted from exploratory drilling.

The primary source of the sediments was the sandstones, siltstones and mudstones of the Permian and Triassic strata, and the Jurassic dolerite.